

Knowing Our Numbers

Class 6 Mathematics Notes

Complete Study Notes

Learning Objectives

In this chapter, students will learn how numbers are used in everyday life for counting, measuring, comparing, and trading. They will understand how to compare large numbers, arrange them in ascending and descending order, read and write numbers in both the Indian and International Number Systems, estimate and round off numbers, simplify calculations using brackets, and read and write Roman numerals. These concepts strengthen number sense and develop confidence in solving mathematical problems.

Introduction to Knowing Our Numbers

The chapter Knowing Our Numbers introduces students to the fascinating world of large numbers and their practical applications. Numbers are used everywhere—from counting population and money to measuring distances and recording information. Understanding how to read, compare, estimate, and represent numbers correctly is an essential mathematical skill.

This chapter explains different number systems, place value, face value, estimation techniques, brackets, and Roman numerals through simple examples that make mathematics more meaningful and enjoyable.

Comparing Numbers

Comparing numbers helps us determine which number is greater or smaller. When comparing large numbers, the first step is to count the number of digits. A number with more digits is always greater than a number with fewer digits.

If two numbers have the same number of digits, they are compared from the leftmost digit. The first place where the digits differ determines the greater number. Students also learn to arrange numbers in ascending order, which means from the smallest to the largest, and descending order, which means from the largest to the smallest.

These concepts are useful in organizing information, comparing quantities, and solving mathematical problems involving large numbers.

Number Systems and Commas

Large numbers are written using commas to improve readability. In the Indian Number System, numbers are grouped into Ones, Thousands, Lakhs, and Crores. Commas are placed after the first three digits from the right and then after every two digits.

In the International Number System, numbers are grouped into Ones, Thousands, Millions, and Billions. Here, commas are placed after every three digits from the right.

Students also learn the difference between place value and face value. The face value of a digit remains the same regardless of its position, whereas the place value depends on where the digit is placed in the number.

Understanding these systems enables students to read and write very large numbers accurately.

Estimation and Rounding Off

Estimation helps us find approximate values quickly without performing lengthy calculations. It is especially useful when checking answers or making quick mental calculations.

Students learn how to round numbers to the nearest tens, hundreds, and thousands. While rounding to the nearest ten, the ones digit is observed. For rounding to the nearest hundred, the tens digit is considered, and for rounding to the nearest thousand, the hundreds digit is examined.

Estimation makes calculations simpler and helps students develop better numerical reasoning in everyday situations.

Brackets and Mathematical Expressions

Brackets are used to group numbers and simplify mathematical expressions. They help determine the correct order in which operations should be performed.

Students also learn how to expand expressions using the distributive property. For example,

$$7 \times 109 = 7 \times (100 + 9) = 700 + 63 = 763$$

Using brackets correctly reduces calculation errors and makes complex mathematical expressions easier to solve.

Roman Numerals

Roman numerals are an ancient system of writing numbers using letters such as I, V, X, L, C, D, and M. These symbols are still used today on clocks, book chapters, monuments, and important events.

Students learn the rules for writing Roman numerals, including repetition, addition, and subtraction of symbols. They also understand common mistakes, such as writing 40 as XXXX, whereas the correct Roman numeral is XL.

Learning Roman numerals helps students recognize different number systems and improves their understanding of mathematical history.

Practice Questions

1. Insert commas in the Indian Number System: 87595762
2. Estimate 578×161 by rounding both numbers to the nearest hundreds.
3. Write 73 in Roman numerals.

Answer Key

ANSWER 1

The number 87595762 is written in the Indian Number System as 8,75,95,762.

ANSWER 2

Rounding 578 to the nearest hundred gives 600, and 161 rounds to 200. Therefore,

$$600 \times 200 = 1,20,000$$

Hence, the estimated product is 1,20,000.

ANSWER 3

The Roman numeral for 73 is LXXIII.